IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

1. (Previously Presented) A controlled-object model generation method for generating a model of a controlled object, the method comprising:

acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto; and

generating a model of the controlled object by acquiring time series data of values which is outputted from a transfer function assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function, and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum.

2. (Previously Presented) A computer-readable storage medium encoded with a controlled-object model generation program used for realization of a controlled-object model generation method, the program causing a computer to execute a method comprising:

acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto; and

generating a model of the controlled object by acquiring time series data of values which is outputted from a transfer function assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function, and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum.

3. (Previously Presented) A controlled-object model generation method for generating a model of a controlled object, the method comprising:

acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto;

acquiring time series data of values which is outputted from each of transfer functions assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function, and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum; and

selecting, from the plurality of transfer functions having the identified parameters, the optimum one as a model of a controlled object based on the error acquired when the identification is completed or the value derived from the error.

4. (Previously Presented) A computer-readable storage medium encoded with a controlled-object model generation program used for realization of a controlled-object model generation method, the program causing a computer to execute a method comprising:

acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto;

acquiring time series data of values which is outputted from each of transfer functions assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function, and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum; and

selecting, from the plurality of transfer functions having the identified parameters, the optimum one as a model of a controlled object based on the error acquired when the identification is completed or the value derived from the error.

5. (Previously Presented) A control parameter adjustment method for adjusting control parameters of a controller, the method comprising:

generating a model of a controlled object according to a controlled-object model generation process for generating a model of a controlled object;

in order to adjust a control algorithm of the controller, adjusting control parameters of the control algorithm; and

creating and outputting data showing relationship among a desired controlled variable, a manipulated variable and a controlled variable by simulating the state when the controller with the adjusted control parameters controls the controlled object with the use of the controlled-object model and the control algorithm,

wherein the predetermined controlled-object model generation process further comprises:

acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto; and

generating a model of the controlled object by acquiring time series data of values which is outputted from a transfer function assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function, and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum.

6. (Previously Presented) A computer-readable storage medium encoded with a control parameter adjustment program used for realization of a control parameter adjustment method, the program causing a computer to execute a method comprising:

acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto;

generating a model of the controlled object by acquiring time series data of values which is outputted from a transfer function assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function, and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum;

in order to adjust a control algorithm of the controller, adjusting control parameters of the control algorithm; and

creating and outputting data showing relationship among a desired controlled variable, a manipulated variable and a controlled variable by simulating the state when the controller with

the adjusted control parameters controls the controlled object with the use of the controlled-object model and the control algorithm.

7. (Previously Presented) A control parameter adjustment method for adjusting control parameters of a controller, the method comprising:

generating a model of a controlled object according to a controlled-object model generation process for generating a model of a controlled object;

in order to adjust a control algorithm of the controller, adjusting control parameters of the control algorithm; and

creating and outputting data showing relationship among a desired controlled variable, a manipulated variable and a controlled variable by simulating the state when the controller with the adjusted control parameters controls the controlled object with the use of the controlled-object model and the control algorithm,

wherein the controlled-object model generation process further comprises:

acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto;

acquiring time series data of values which is outputted from each of transfer functions assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function, and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum; and

selecting, from the plurality of transfer functions having the identified parameters, the optimum one as a model of a controlled object based on the error acquired when the identification is completed or the value derived from the error.

8. (Previously Presented) A computer-readable storage medium encoded with a control parameter adjustment program used for realization of a control parameter adjustment method, the program causing a computer to execute a method comprising:

acquiring time series data of manipulated variables given to a controlled object and time series data of controlled variables outputted by the controlled object in response thereto;

acquiring time series data of values which is outputted from each of transfer functions assumed in advance when the acquired time series data of manipulated variables is inputted to the transfer function, and identifying one or more parameters of the transfer function so that an error between the time series data of output values and the acquired time series data of controlled variables corresponding thereto or a value derived from the error becomes optimum;

selecting, from the plurality of transfer functions having the identified parameters, the optimum one as a model of a controlled object based on the error acquired when the identification is completed or the value derived from the error;

in order to adjust a control algorithm of the controller, adjusting control parameters of the control algorithm; and

creating and outputting data showing relationship among a desired controlled variable, a manipulated variable and a controlled variable by simulating the state when the controller with the adjusted control parameters controls the controlled object with the use of the controlled-object model and the control algorithm.

9. (Previously Presented) A method for generating a model of a controlled object, comprising

generating a controlled-object model, which receives time series manipulated variables and outputs time series controlled variables in response thereto, from a transfer function determined prior to said generating and optimum parameters derived from the controlled variables and at least one error in an output of the transfer function.

10. (Previously Presented) The method recited in claim 9, wherein the transfer function is not modified while generating the controlled-object model.